

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CA2004/001466

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7 C07D405/04; C07D405/06; C07D405/14; C07D413/14; C07D417/14; A61K31/395

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 C07D405/00; C07D413/14; C07D417/14; A61K31/395

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base, and, where practicable, search terms used)  
Chemical Abstracts: structure search based on formula 1.2 of claim 6  
US, WO, EP, CA full-text including OCR: IPC C07D405/, 413/14, 417/14 or A61K31/395 and keywords - nitrofurantoin plus related terms and antibacterial plus related terms  
CA bibliographic data and image - CPC 167/212, 167/215, 167/217 167/218, 260/243, 260/244, 260/245, 260/253 and/or keywords - nitrofurantoin plus related terms and antibacterial plus related terms  
Pluspat: ECLA/IPC C07D405/, 413/14, 417/14 or A61K31/395 and/or keywords - nitrofurantoin plus related terms and antibacterial plus related terms  
MEDLINE: nitrofurantoin plus related terms and antibacterial plus related terms

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Zhikhareva G.P. et al, "Synthesis and Study of Antiviral Activity of Substituted 4-(d-diethylamino-a-methylbutylamino)-2-styrylquinazolines", Khimiko-Farmatsevticheskii Zhurnal (1978), 12 (11), 44. Chemical Abstracts: 90:121527	1, 11, 26-28
A	US 3970648 A (DIAMOND SHAMROCK) 20 July 1976 tables A and B, examples I-VI, claims (cited in the application)	1-42
A	US 3973021 A (DIAMOND SHAMROCK) 3 August 1976 tables A and B, examples I-VI (cited in the application)	1-42
A	US 3974277 A (DIAMOND SHAMROCK) 20 August 1976 tables A and B, examples I-VI, claims (cited in the application)	1-42
A	US 3542784 (NORWICH) 24 November 1970 the whole document (cited in the application)	1-42
A	US 3324122 A (NORWICH) 6 June 1967 the whole document	1-42

Further documents are listed in the continuation of Box C.

Patent family members are listed in annex.

<p>• Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&amp;" document member of the same patent family</p>	
<p>Date of the actual completion of the international-type search</p> <p>12 November 2004 (12-11-2004)</p>	<p>Date of mailing of the international-type search report</p> <p>17 December 2004 (17-12-2004)</p>
<p>Name and mailing address of the ISA/  <i>Commissioner of Patents</i>  <i>Canadian Patent Office - PCT</i>  <i>Ottawa/Gatineau K1A 0C9</i>  Facsimile No. 1-819-953-9358</p>	<p>Authorized officer</p> <p>Yong-Huang Chen (819) 956-4113</p>

Form PCT/ISA/210 (second sheet) (January 2004)

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## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons :

1. ☒ Claims Nos. : 29-33  
because they relate to subject matter not required to be searched by this Authority; namely:  
Although claims 29-33 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.: 1-5, 9, 11-18 and 26-38 in part  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically :  
Claims 1-5, 9, 11-18 and 26-38 lack clarity pursuant to Article 6 for being directed to the desired result rather than to the combination disclosed to achieve that result. The functional term "solubilizing group" in claim 1 is non-limitative and ill-defined in structure. It is uncertain what structural features are supposed to increase solubility. In view of the disclosed examples, the chemical structure search is therefore limited to formula 1.2 of claim 6.
3. ☐ Claims Nos. :  
because they are dependant claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observation where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows :

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos. :
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos. :

Remark on Protest ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.  
**PCT/CA2004/001466**

Patent document cited in search report	Publication Date	Patent family members	Publication Date
US 3970648 A	20-07-1976	US 3973021 A US 3974277 A	03-08-1976 20-08-1976
US 3973021 A	03-08-1976	US 3970648 A US 3974277 A	20-07-1976 20-08-1976
US 3974277 A	20-08-1976	US 3970648 A US 3973021 A	20-07-1976 03-08-1976
US 3542784 A	24-11-1970	AT 284829B B BE 729298 A CH 507979 A DE 1909522 A1 DK 117566B B ES 363881 A1 FR 2005591 A5 GB 1168430 A IE 32904L L IL 31322 A NL 6904849 A NO 122373B B SE 357367 B	25-09-1970 03-09-1969 31-05-1971 30-10-1969 11-05-1970 01-01-1971 12-12-1969 22-10-1969 05-10-1969 30-05-1972 07-10-1969 21-06-1971 25-06-1973
US 3324122 A	06-06-1967	AT 255424B B BE 672504 A BR 6575667D D0 CH 448110 A DE 1620076 A1 DK 117902B B FR1460221 A GB 1101179 A GB 1101180 A IL 24359 A NL 6513634 A NO 118066B B SE 325579 B	16-03-1966 06-09-1973 15-12-1967 12-02-1970 15-06-1970 17-06-1966 31-01-1968 31-01-1968 29-01-1969 15-06-1966 03-11-1969 07-07-1970